

CLAIMS

1. A device for the optical analysis of a thread or yarn (F) fed to a textile machine, said device comprising at least one light emitter element (3, 4) and at least one receiver element (5), said emitter element (3, 4)
5 generating a light signal which strikes said thread (F) before being sensed by the receiver element (5) which, based on this sensing, defines a characteristic of the thread (F) such as its movement or its stoppage, a dimensional defect or another dimensional characteristic, characterised by comprising, interposed between said light emitter element (3, 4) and said
10 receiver element (5), light transparent means (6) which are encountered by the light signal after it has interacted with the thread (F), and which act as a thread guide, characterised in that said light transparent means (6) are of ceramic material.

2. A device as claimed in claim 1, characterised in that said ceramic
15 material contains at least one of the following: alumina, zirconium, sapphire, that is the ceramic material is a transparent textile ceramic.

3. A device as claimed in claim 1, characterised in that said light transparent means (6) are in contact with the thread (F).

4. A device as claimed in claim 1, characterised in that the light
20 transparent means (6) comprise an at least partly annular body (20), the monitored thread (F) being positioned within the aperture (35) of this body, said body (20) being supported by the device casing (30) which is shaped such as to lie at least partly about said aperture (35) of said body (20) of the light transparent means (6).

5. A device as claimed in claim 4, characterised in that its casing (30) comprises two coupled-together parts (28, 29) which retain between them the body (20) of the light transparent means (6).

6. A device as claimed in claim 5, characterised in that the parts (28, 29) of its casing (30) present opposing edges (31, 32) able to be fitted together, within said parts (28, 29) there being positioned an electrical circuit (100) presenting the at least one light emitter element (3, 4) and the receiver element (5), this latter being connected to a microprocessor unit (120) arranged to evaluate each monitored characteristic of the thread (F),
10 in accordance with a preset algorithm on the basis of the light signal received by the receiver element (5).

7. A device as claimed in claim 6, characterised in that the parts (28, 29) of its casing (30) and the support (33) present arms projecting from a main portion and at least partly defining the body (30) of the light
15 transparent means.

8. A device as claimed in claim 7, characterised in that these arms are mutually opposing and define a corridor (37) in the casing (30) of the device (1).

9. A device as claimed in claim 8, characterised in that on the opposing
20 arms there are positioned a light transmitter element (49) and a receiver element (51) which act as an optical barrier arranged to modify, when intercepted, the activity state of the device (1).

10. A device as claimed in claim 9, characterised in that on at least one of said opposing arms there is positioned a light transmitter element (3, 4)
25 directed towards the receiver element (5).

11. A device as claimed in claim 1, characterised in that the light emitter elements (3, 4) are at least two in number and are orientated such that the thread (F) is always struck by the light emitted by at least one of them.